



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/829,433	04/22/2004	Gerard D. Agnew	84740 3134 TAL	8778
20736 7590 09/21/2007 MANELLI DENISON & SELTER 2000 M STREET NW SUITE 700 WASHINGTON, DC 20036-3307			EXAMINER CASAREGOLA, LOUIS J	
			ART UNIT 3746	PAPER NUMBER
			MAIL DATE 09/21/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/829,433

Applicant(s)

AGNEW, GERARD D.

Examiner

Louis J. Casaregola

Art Unit

3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 8/28/07.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 1-21,27,30-32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 22-26,28-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Election

Applicant's election of the invention of Group III and the species of Figure 2 is acknowledged. Applicant has listed claim 22-26, 28 and 29 as readable on the elected species. An action on the merits of these claims is presented below, and non-elected claims 1-21, 27 and 30-32 are withdrawn from further consideration.

Objections To Claims

Claims 28 and 29 are objected to under 37 CFR 1.75(a) for the following reason:

In claim 28 and related dependent claim 29, reference to "the engine" (claim 28, line 1) lacks proper antecedent basis.

Claim Rejections - 35 USC 102

Claims 22-24, 28 and 29 are rejected under 35 USC 102(b and/or e) as being anticipated by Frutschi et al.

All steps of the broadly claimed carbon dioxide recirculation method are performed during the normal operation of prior art power plants of the type disclosed by

Frutschi. Attention is called, for example, to Frutschi's Figure 5; note that combustion means 2 generates a flue gas including carbon dioxide, the carbon dioxide is recycled (via elements 3, 18, etc.) to condenser 4, and the condenser then supplies condensed carbon dioxide through line 17 to a region upstream of the combustion means. With regard to claims 23 and 24, note also that the operation of Frutschi's condenser is accompanied by a heat removal step performed by element 12 and a compression step performed by element 18. With respect to claims 28 and 29, attention is further called to the fact that Frutschi's power plant comprises a gas turbine engine arranged such that the carbon dioxide is extracted from a location downstream of turbine 3 and is then fed back through the system by the engine's compressor 18.

Claims 22, 25, 26, 28 and 29 are rejected under 35 USC 102(b) as being anticipated by Keller.

Keller discloses a further example of a gas turbine power plant with a carbon dioxide recycle feature. Attention is called to Keller's Figure 2, which shows a gas turbine engine comprising elements 7-9 along with a fluid injection element 2 located upstream of the engine's combustor 8. Element 2 may be supplied with liquid carbon dioxide (col. 7, lines 52-59), and this carbon dioxide may be extracted downstream of the combustor from the exhaust of turbine 9 (col. 7, lines 63-64). Since the gas turbine exhaust is a gas, moreover, converting its carbon dioxide content to the required liquid form necessarily constitutes some form of condensation, and a condensation step is thus implicitly included in the operation of Keller's power plant. With regard to claims 25

Art Unit: 3746

and 26, attention is additionally called to the fact Keller's element 2, which receives the liquid carbon dioxide, is disclosed as an atomizing or spraying device.

Additional References

Osgerby is cited as disclosing an further example of a gas turbine power plant that recycles carbon dioxide taken from turbine exhaust.



L. J. Casaregola
571-272-4826 (M-F; 7:30-4:00)
571-273-8300 FAX
September 17, 2007

If repeated attempts to reach the examiner by telephone are unsuccessful, the art unit supervisor, Anthony Stashick, can be reached at 571-272-4561.

Information regarding the status of this application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR, and status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).